

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) An impeller for a centrifugal pump having an operational direction of impeller rotation in a pump housing, said impeller comprising:

a substantially circular-disk-shaped carrier having a plurality of elongate blades on a disk plane surface thereof, each of said blades extending away from said disk plane surface and being longitudinally curved between an inner radial end and an outer radial end; ~~and~~

at least one blade of said impeller extends with a first curved portion oriented concavely toward the direction of impeller rotation and a second curved portion oriented convexly toward the direction of impeller rotation; and

said first curved portion being shorter than the second curved portion.

2. (Original) The impeller as recited in claim 1, further comprising:

said first curved portion of said at least one blade extending from said inner radial end to said second curved portion, and said second curved portion extending from the first curved portion outwardly toward said outer radial end.

3. (Currently Amended) The impeller as recited in claim [2] 1, further comprising:

said outer radial end being located at an outer peripheral circumference of said carrier.

4. (Cancelled)

5. (Currently Amended) The impeller as recited in claim [2] 1, further comprising:

a length of said first curved portion being between ten and forty percent of a total length of said at least one blade.

6. (Currently Amended) ~~The impeller as recited in claim 2, further comprising:~~

An impeller for a centrifugal pump having an operational direction of impeller rotation in a pump housing, said impeller comprising:

a substantially circular-disk-shaped carrier having a plurality of elongate blades on a disk plane surface thereof, each of said blades extending away from said disk plane surface and being longitudinally curved between an inner radial end and an outer radial end;

at least one blade of said impeller extends with a first curved portion oriented concavely toward the direction of impeller rotation and a second curved portion oriented convexly toward the direction of impeller rotation;

said at least one blade being, along at least part of a length thereof, angularly inclined away from said disk plane surface of the carrier at an angle that is less than 90 degrees measured at that side of said blade facing the operational direction of impeller rotation.

7. (Currently Amended) The impeller as recited in claim [2] 6, further comprising:

said at least one blade being, along at least part of a length thereof, angularly inclined away from said disk plane surface of the carrier at an angle that is between approximately 45 and approximately 87 degrees measured at that side of said blade facing the operational direction of impeller rotation.

8. (Currently Amended) The impeller as recited in claim [2] 6, further comprising:

an edge of said at least one blade that is opposite an edge that is connected to the carrier has an oblique bevel with a tip directed toward the operational direction of impeller rotation.

9. (Original) The impeller as recited in claim 8, further comprising:

said oblique bevel has an angle relative to said disk plane surface of said carrier between approximately 3 degrees and approximately 30 degrees.

10. (Currently Amended) A centrifugal pump comprising:

an impeller having an operational direction of impeller rotation in a pump housing;
said impeller comprising a substantially circular-disk-shaped carrier having a plurality of elongate blades on a disk plane surface thereof, each of said blades extending away from said disk plane surface and being longitudinally curved between an inner radial end and an outer radial end;

said impeller further comprising at least one blade of said impeller extends with a first curved portion oriented concavely toward the direction of impeller rotation and a second curved portion oriented convexly toward the direction of impeller rotation and said first curved portion being shorter than the second curved portion; and

said impeller being arranged to rotate in said pump housing with said plurality of blades interacting with a pump housing wall which is parallel and close to said disk plane surface of said carrier.

11. (Original) A centrifugal pump comprising:

an impeller having an operational direction of impeller rotation in a pump housing;
said impeller comprising a substantially circular-disk-shaped carrier having a plurality of elongate blades on a disk plane surface thereof, each of said blades extending away from said disk plane surface and being longitudinally curved between an inner radial end and an outer radial end;

said impeller further comprising at least one blade of said impeller extends with a first curved portion oriented concavely toward the direction of impeller rotation and a second curved portion oriented convexly toward the direction of impeller rotation and said first curved portion being shorter than the second curved portion; and

said impeller further comprising a disk oriented parallel to said disk plane surface of said carrier and connected to said plurality of blades, said disk having a central inflow opening for introducing media to be pumped by said centrifugal pump.

12. (New) An impeller for a centrifugal pump having an operational direction of impeller rotation in a pump housing, said impeller comprising:

a substantially circular-disk-shaped carrier having a plurality of elongate blades on a disk plane surface thereof, each of said blades extending away from said disk plane surface and being longitudinally curved between an inner radial end and an outer radial end; and

at least one blade of said impeller extends with a first curved portion oriented concavely toward the direction of impeller rotation and a second curved portion oriented convexly toward the direction of impeller rotation;

said first curved portion of said at least one blade extending from said inner radial end to said second curved portion, and said second curved portion extending from the first curved portion outwardly toward said outer radial end; and

said at least one blade being, along at least part of a length thereof, angularly inclined away from said disk plane surface of the carrier at an angle that is less than 90 degrees measured at that side of said blade facing the operational direction of impeller rotation.

13. (New) An impeller for a centrifugal pump having an operational direction of impeller rotation in a pump housing, said impeller comprising:

a substantially circular-disk-shaped carrier having a plurality of elongate blades on a disk plane surface thereof, each of said blades extending away from said disk plane surface and being longitudinally curved between an inner radial end and an outer radial end; and

at least one blade of said impeller extends with a first curved portion oriented concavely toward the direction of impeller rotation and a second curved portion oriented convexly toward the direction of impeller rotation;

said first curved portion of said at least one blade extending from said inner radial end to said second curved portion, and said second curved portion extending from the first curved portion outwardly toward said outer radial end; and

said at least one blade being, along at least part of a length thereof, angularly inclined away from said disk plane surface of the carrier at an angle that is between approximately 45 and approximately 87 degrees measured at that side of said blade facing the operational direction of impeller rotation.

14. (New) An impeller for a centrifugal pump having an operational direction of impeller rotation in a pump housing, said impeller comprising:

a substantially circular-disk-shaped carrier having a plurality of elongate blades on a disk plane surface thereof, each of said blades extending away from said disk plane surface and being longitudinally curved between an inner radial end and an outer radial end; and

at least one blade of said impeller extends with a first curved portion oriented concavely toward the direction of impeller rotation and a second curved portion oriented convexly toward the direction of impeller rotation;

said first curved portion of said at least one blade extending from said inner radial end to said second curved portion, and said second curved portion extending from the first curved portion outwardly toward said outer radial end;

an edge of said at least one blade that is opposite an edge that is connected to the carrier has an oblique bevel with a tip directed toward the operational direction of impeller rotation.

15. (New) An impeller for a centrifugal pump having an operational direction of impeller rotation in a pump housing, said impeller comprising:

a substantially circular-disk-shaped carrier having a plurality of elongate blades on a disk plane surface thereof, each of said blades extending away from said disk plane surface and being longitudinally curved between an inner radial end and an outer radial end; and

at least one blade of said impeller extends with a first curved portion oriented concavely toward the direction of impeller rotation and a second curved portion oriented convexly toward the direction of impeller rotation;

said first curved portion of said at least one blade extending from said inner radial end to said second curved portion, and said second curved portion extending from the first curved portion outwardly toward said outer radial end;

said oblique bevel has an angle relative to said disk plane surface of said carrier between approximately 3 degrees and approximately 30 degrees.

16. (New) The centrifugal pump as recited in claim 10, further comprising:

said at least one blade being, along at least part of a length thereof, angularly inclined away from said disk plane surface of the carrier at an angle that is less than 90 degrees measured at that side of said blade facing the operational direction of impeller rotation.

17. (New) The centrifugal pump as recited in claim 10, further comprising:

said at least one blade being, along at least part of a length thereof, angularly inclined away from said disk plane surface of the carrier at an angle that is between approximately 45 and approximately 87 degrees measured at that side of said blade facing the operational direction of impeller rotation.

18. (New) The centrifugal pump as recited in claim 10, further comprising:

an edge of said at least one blade that is opposite an edge that is connected to the carrier has an oblique bevel with a tip directed toward the operational direction of impeller rotation.

19. (New) The centrifugal pump as recited in claim 10, further comprising:

said oblique bevel has an angle relative to said disk plane surface of said carrier between approximately 3 degrees and approximately 30 degrees.

20. (New) The centrifugal pump as recited in claim 11, further comprising:

said at least one blade being, along at least part of a length thereof, angularly inclined away from said disk plane surface of the carrier at an angle that is less than 90 degrees measured at that side of said blade facing the operational direction of impeller rotation.

21. (New) The centrifugal pump as recited in claim 11, further comprising:

said at least one blade being, along at least part of a length thereof, angularly inclined away from said disk plane surface of the carrier at an angle that is between approximately 45 and approximately 87 degrees measured at that side of said blade facing the operational direction of impeller rotation.

22. (New) The centrifugal pump as recited in claim 11, further comprising:

an edge of said at least one blade that is opposite an edge that is connected to the carrier has an oblique bevel with a tip directed toward the operational direction of impeller rotation.

23. (New) The centrifugal pump as recited in claim 11, further comprising:

said oblique bevel has an angle relative to said disk plane surface of said carrier between approximately 3 degrees and approximately 30 degrees.